HP UPS R3000 ERM
Installation Instructions

⚠ Important Safety Information

Before installation, read *Important Safety Information* on the Documentation CD.
قبل التثبت، اقرأ معلومات هامة حول السلامة على القرص المضغوط Documentation CD.
Před instalací si přečtěte příručku *Důležité bezpečnostní informace* na disku CD.
安裝之前，请阅读文档 CD 上的重要安全信息。
安裝前，請閱讀說明文件光碟上的「重要的安全性資訊」。
Læs dokumentet Vigtige sikkerhedsoplysninger på dokumentations-cd'en, før produktet installeres.
Lesen Sie vor der Installation die *Sicherheitshinweise* auf der Documentation CD.
Enne installimist vt dokumentatsiooni CD-lt peatükki „*Tähtis ohutusteave*".
Antes de la instalación, lea la sección *Información de seguridad importante* del CD Documentación.
Avant l'installation, lisez les *informations importantes relatives à la sécurité* CD Documentation.
Πριν την εγκατάσταση, διαβάστε *Σημαντικές πληροφορίες ασφαλείας* στο CD Documentation.
לפני ההתקנה, קרא את המידע הבטיחותי החשוב שב-Documentation CD (תקליטור התיעוד).
Prije ugradnje, pročitajte *Važne sigurnosne informacije* na dokumentacijskom CD-u.
Prima dell'installazione, leggere sul CD le Informazioni importanti sulla sicurezza.
インストール前に、Documentation CDの『安全に使用していただくために』をお読みください。
설치하기 전에 Documentation CD의 주요 안전 수칙을 읽으십시오.
Pirms instalācijas, izlasiet drošības informāciju dokumentācijas CD.
Prieš diegdami perskaitykite *Svarbią saugos informaciją* dokumentacijos CD.
Telepítés előtt olvassa el a dokumentációs CD *Fontos biztonsági tudnivalók* dokumentumát.
Lees de *Belangrijke veiligheidsinformatie* op de documentatie-cd voordat u de installatie uitvoert.
Les "Viktig sikkerhetsinformasjon" på dokumentasjons-CDen før du installerer dette produktet.
Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa* na dysku CD Documentation.
Antes da instalação, leia as *Informações Importantes sobre Segurança* no CD da Documentação.
Перед установкой ознакомьтесь с разделом *Указания по технике безопасности* на компакт-диске «Документация».
Pred inštaláciou si prečítajte časť *Dôležité bezpečnostné informácie* na disku Documentation CD.
Pred namestitvijo preberite *Pomembne varnostne informacije* na CD-ju Documentation.
Tärkeisiin turvatietoihin" Documentation CD -levyllä ennen tuotteen asentamista.
Läs dokumentet Viktig säkerhetsinformation på dokumentations-cd:n innan du installerar denna produkt.
Yüklemeden önce, Documentation CD'sindeki *Önemli Güvenlik Bilgileri*'ni okuyun.
Перед установкою прочитайте *Важливі відомості з безпеки* на CD документації.

Overview

The ERM consists of two battery packs in a 2U chassis. The ERM connects directly to a UPS R3000 or to another ERM. Up to two ERM units can be connected.

At the HP recommended 80 percent load, one ERM extends the available UPS runtime up to 30 minutes.

For more information about any of the topics covered in this document, see the UPS user guide located on the documentation CD or HP website (http://www.hp.com/go/rackandpower).

Precautions

⚠ **WARNING: A risk of personal injury from electric shock and hazardous energy levels exists. The installation of options and routine maintenance and service of this product must be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with AC power products.**

45 kg
100 lb

This symbol indicates that the ERM exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

⚠ **CAUTION:** Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

Kit contents

- *Important Safety Information* guide
- This document
- Warranty information
- Rails, with mounting hardware for square- and round-holed racks
- ERM
- Front bezel
- Rear stabilization brackets (2) and associated hardware
- ERM power cable

Tools and materials

The following tools are required for installation:

- Phillips screwdriver
- 10-mm hex-nut driver

The following items are supplied with the rack:

- Screws
- Hex nuts
- Cage nuts
- Cage nut-fitting tool

Selecting a site

⚠ **WARNING: To prevent fire or electric shock, install the unit in a temperature- and humidity-controlled indoor environment, free of conductive contaminants.**

When selecting a site, consider the following factors:

- Elevated operating ambient temperature—If the equipment is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient temperature. Install the equipment in an environment compatible with the operating temperature.
- Reduced air flow—In the rack, the rate of air flow required for safe operation of the equipment must not be compromised.
- Circuit overloading—Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable earthing—Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit, such as the use of power strips.
- Electrical requirements—All models require a dedicated (unshared) branch circuit, suitably rated for the specific UPS as stated in "Input specifications" in the user guide.

Readying the equipment

1. Check the battery recharge date specified on the label that is affixed to the shipping carton.

   📝 **IMPORTANT:** Do not use the battery if the recharge date has passed. If the date on the battery recharge date label has passed without the battery being recharged, contact an HP authorized service representative for directions.

2. Transport the packaged unit to its installation location.

3. Unpack the equipment near the rack where the unit will be assembled.

   ⚠ **CAUTION:** Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.
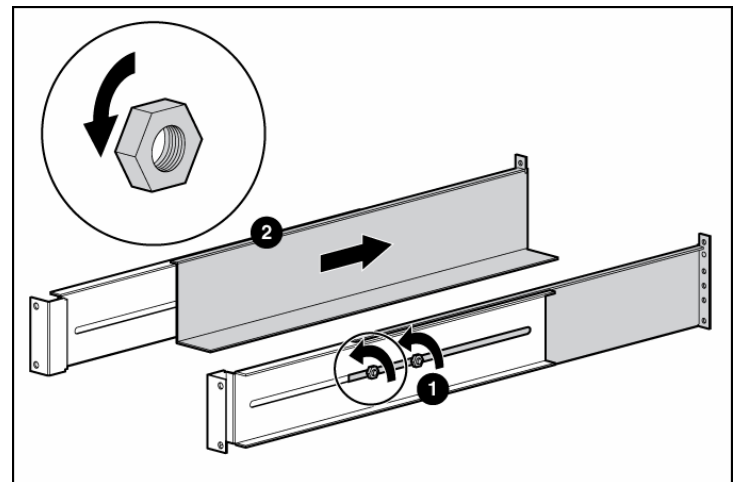
Installing the mounting rails

⚠ **WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:**
   - **The leveling feet are extended to the floor.**
   - **The full weight of the rack rests on the leveling feet.**
   - **The stabilizing feet are attached to the rack if it is a single-rack installation.**
   - **The racks are coupled together in multiple-rack installations.**
   - **Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.**
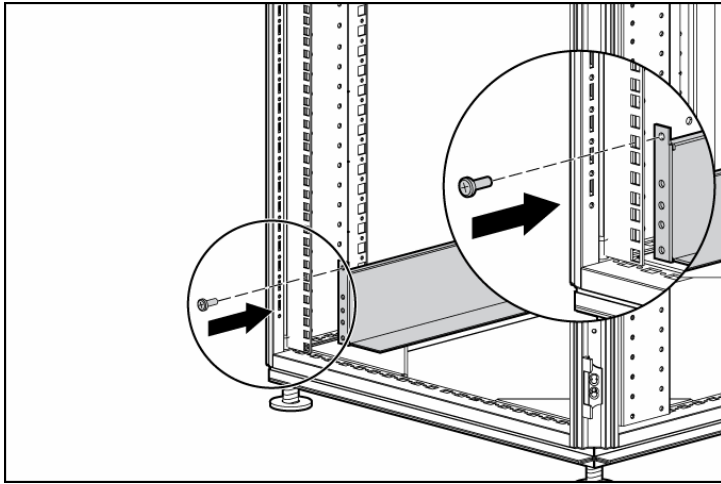
📝 **NOTE:** If preparing the rails for integrated shipping, follow the same instructions as in "Installing the UPS."

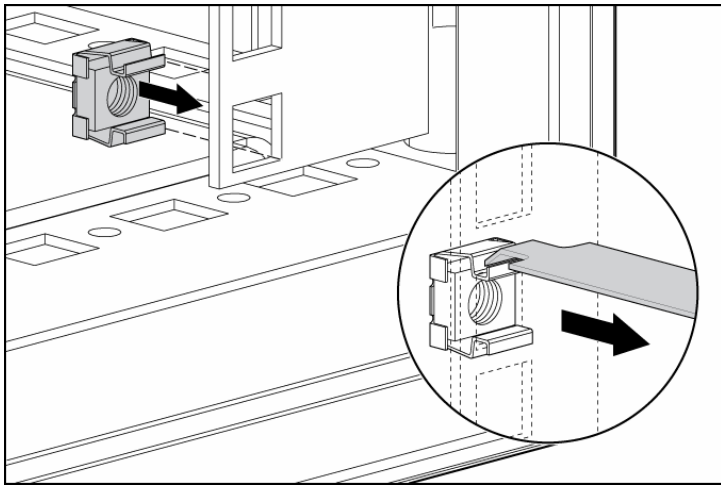📝 **NOTE:** Mounting hardware for square- and round-holed racks is included in the UPS kit.

1. Loosen the hex nuts, and extend the brackets to the desired length.
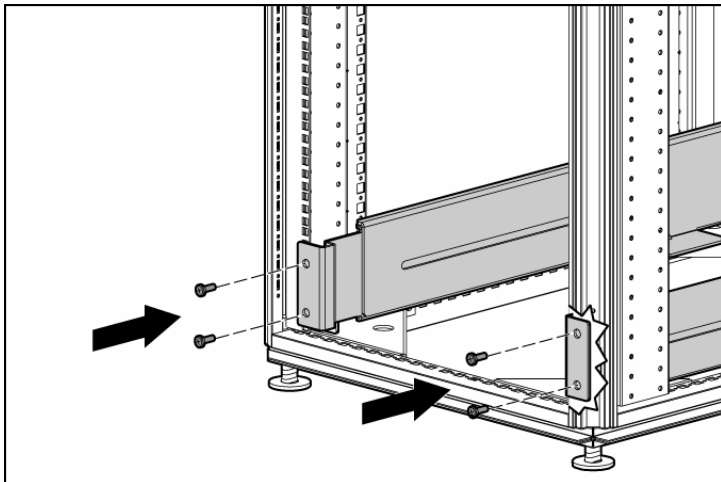
2. Insert screws through the rack into the mounting rail and the front of each mounting bracket.
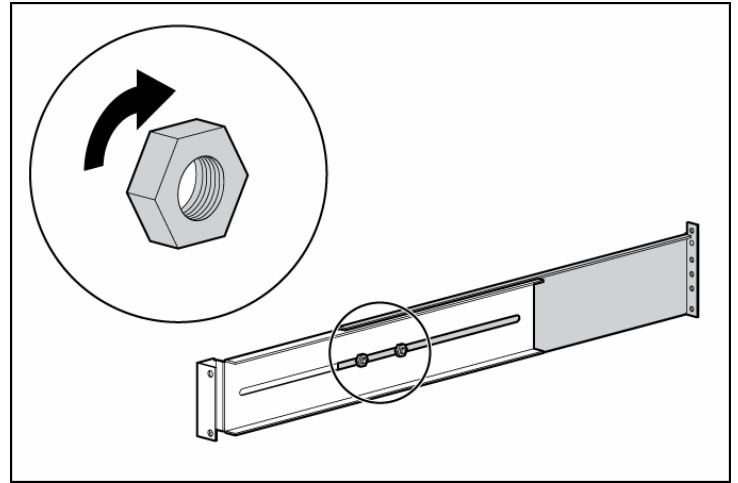

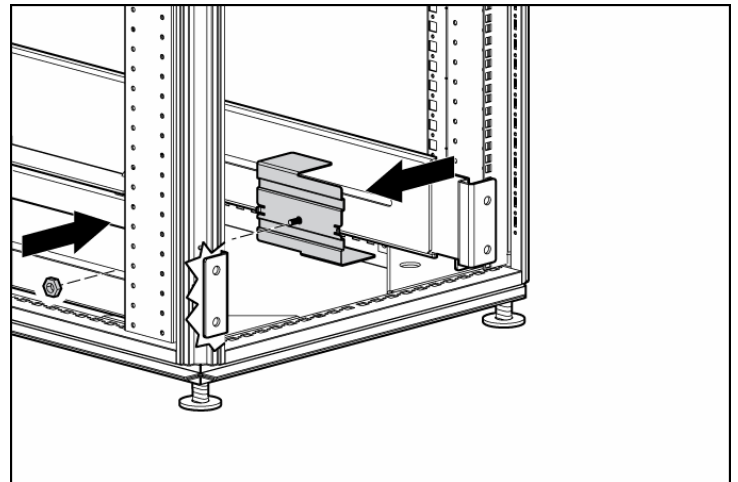**3.** Install cage nuts or clip nuts into the rear of the rack.

4. Insert screws through the mounting rail into the cage nuts or clip nuts.

5. Tighten the hex nuts.

6. Install the rear stabilization bracket using hex nuts. Wait until the unit is installed and the brackets are adjusted before tightening the nuts.
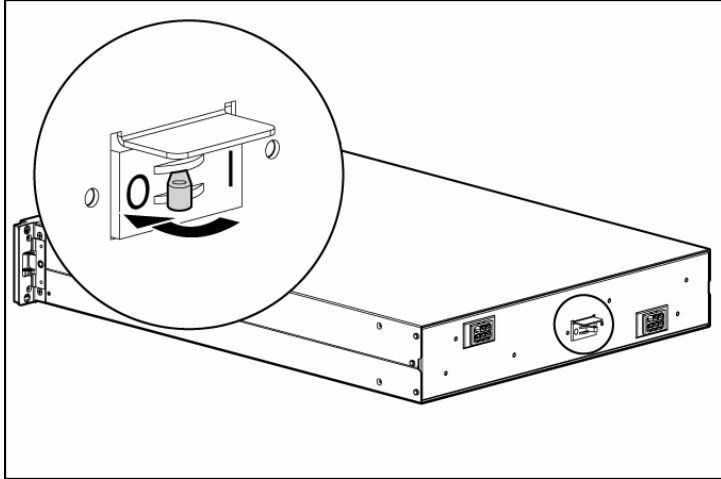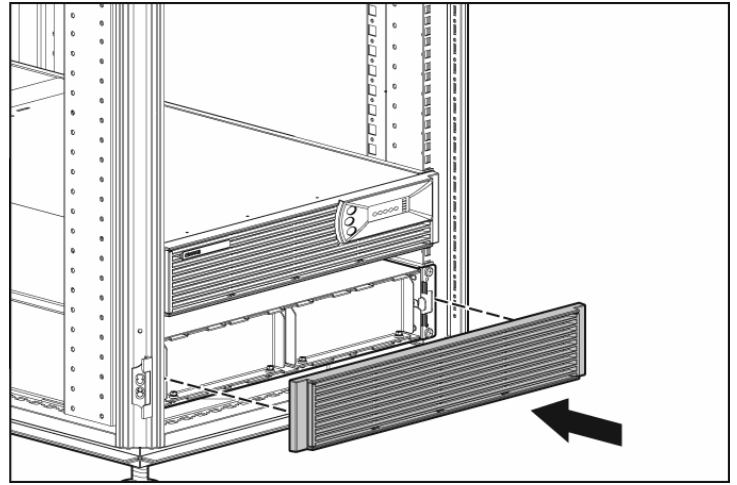

Powering down the UPS

1. Shut down all load devices.

2. Press the Standby button to take the UPS out of Operate mode. Power to the load receptacles ceases.

3. Disconnect the UPS from utility power.

4. Wait at least 60 seconds for the UPS internal circuitry to discharge.

Switching off the ERM circuit breaker

> ⚠ **WARNING: To prevent personal injury from electric shock or damage to the equipment, verify that the circuit breaker is in the Off position.**
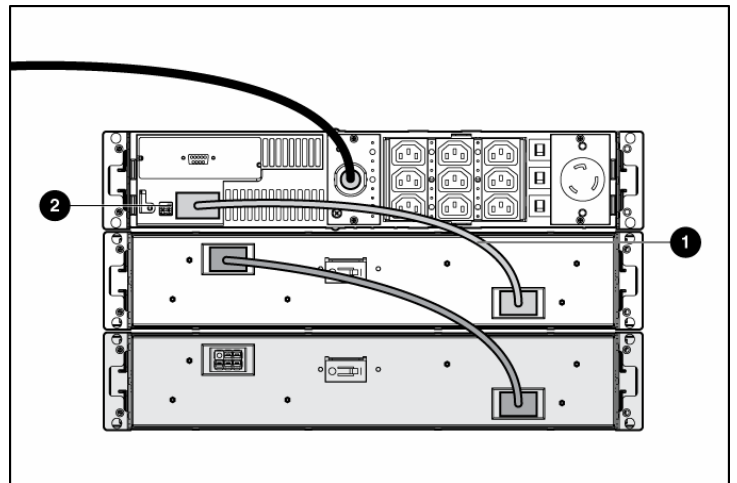

Installing the ERM

Before installing the unit, review and adhere to all warnings provided in "Precautions (on page 1)."

> ⚠ **WARNING: Uneven mechanical loading in the rack may cause a hazardous condition.**

> △ **CAUTION:** Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

1. Install the mounting rails ("Installing the mounting rails" on page 2).
2. With one person on each side, lift the chassis to rail level and slide the chassis on the mounting rails.
3. Attach the chassis to the rack using the supplied screws.

Attaching the ERM front bezel

Connecting the ERM to the UPS

> 📝 **NOTE:** Before connecting an ERM to a UPS, remove the label from the ERM connector.

Plug the ERM cable (1) in the socket (2) at the rear of the UPS.

> 📝 **NOTE:** To install a second ERM, plug the cable from the second ERM into the socket at the rear of the first ERM. Up to two ERM units can be connected.
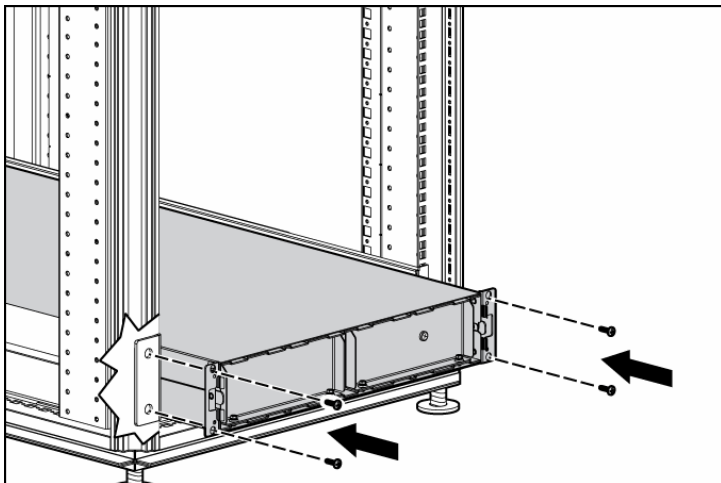
Switching on the ERM circuit breaker
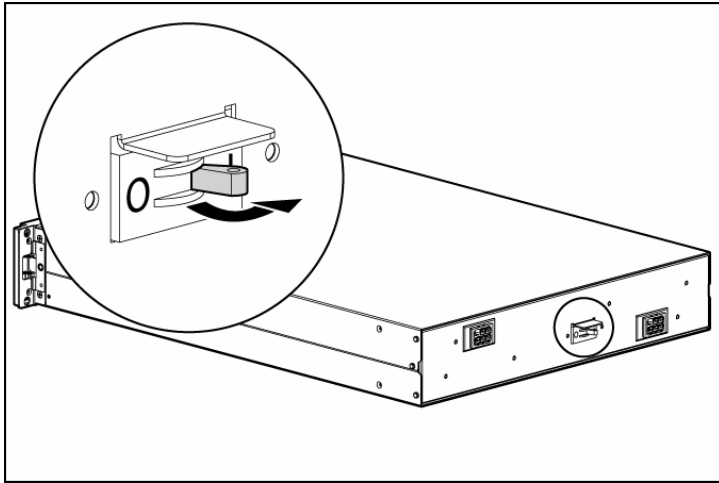
Charging the ERM batteries

Connect the UPS to a grounded utility power outlet. When the UPS is plugged in, the unit automatically enters Standby mode and begins charging the ERM batteries. Allow 24 hours for the ERM to fully charge.

Configuring the UPS

📝 **NOTE:** If the UPS firmware version is 2.00 or later, follow the instructions in "Configuring the UPS." If the UPS firmware version is earlier than 2.00, or the ERM cannot be configured from the UPS front panel, use the ERM configurator tool. To update the UPS firmware or download the ERM configurator tool, see the HP website (http://www.hp.com/go/rackandpower).

After the ERMs are installed, place the UPS in Configure mode, and use the UPS front panel controls and LED indicators to configure the UPS for the number of attached ERMs. Other UPS parameters that can also be configured are the nominal utility voltage level and Site Wiring Fault detection.

In Configure mode, the LED front panel display changes function to enable modification of the UPS parameters. Each LED is associated with a different parameter.

Available settings	Parameter	Associated LED	Explanation (when LED is illuminated)
Nominal voltage setting	100/200-208 Nom	General Alarm (red)	Nominal utility voltage level is set to 100/200-208 VAC
	110/220 Nom	On Battery (red)	Nominal utility voltage level is set to 110/220 VAC
	120/230 Nom	Battery Fault (red)	Nominal utility voltage level is set to 120/230 VAC

Available settings	Parameter	Associated LED	Explanation (when LED is illuminated)
	127/240 Nom	Site Wiring Fault (red)	Nominal utility voltage level is set to 127/240 VAC
Wiring fault setting	Wiring fault	Utility (green)	Audible alarm will sound when ground is missing or line and neutral connections are reversed (not available on the R3000j JPN, R3000h NA, and R3000h JPN models)
ERM setting	0 ERMs	0% to 25% load (green)	UPS is configured for no attached ERMs (factory default)
	1 ERM	26% to 50% load (green)	UPS is configured for 1 attached ERM
	2 ERMs	51% to 75% load (green)	UPS is configured for 2 attached ERMs

📝 **NOTE:** For units factory-configured for 200 V or 208 V, the Site Wiring Fault function has been disabled. If reconfiguring a 230 V unit to operate at 208 V, the Site Wiring Fault function must be manually disabled.

To change the UPS configuration parameters:

1. Place the UPS in Configure mode.

   The LEDs associated with the currently configured parameters illuminate. A flashing green cursor indicates where you are in the configuration process as you scroll through the available settings.

2. To change the nominal voltage, press the On button to advance the cursor to the LED associated with the appropriate nominal voltage parameter. The selected voltage configuration LED flashes.

3. Press the Standby button to select the nominal voltage configuration. The LED associated with the old input voltage parameter turns off and the LED associated with the new input voltage parameter illuminates solid green.

   📝 **NOTE:** Only one nominal utility voltage can be configured. When setting voltage configuration parameters, selecting an On value for any one parameter automatically sets the other possibilities to Off.

4. To enable the Wiring Fault parameter, press the On button to advance the cursor to the Utility LED, then press the Standby button. The LED illuminates solid green. This parameter is disabled by default, and should only be enabled for line-to-neutral connections. Enabling this feature for line-to-line power sources will cause a false alarm.

5. To configure the UPS for the number of connected ERMs, press the On button to advance the cursor to the load LED associated with the number of ERMs attached to the UPS.

6. Press the Standby button to select the appropriate ERM configuration. The associated LED illuminates solid green.

7. To save the configuration settings and exit Configure mode, press the Test/Alarm Reset button.

NOTE: Configure mode times out after 2 minutes. If the Test/Alarm Reset button has not been pressed, any new selections are not saved.

For the location of buttons, see "UPS front panel controls (on page 6)."

For the location of LEDs, see "UPS front panel LED indicators (on page 6)."

UPS front panel controls
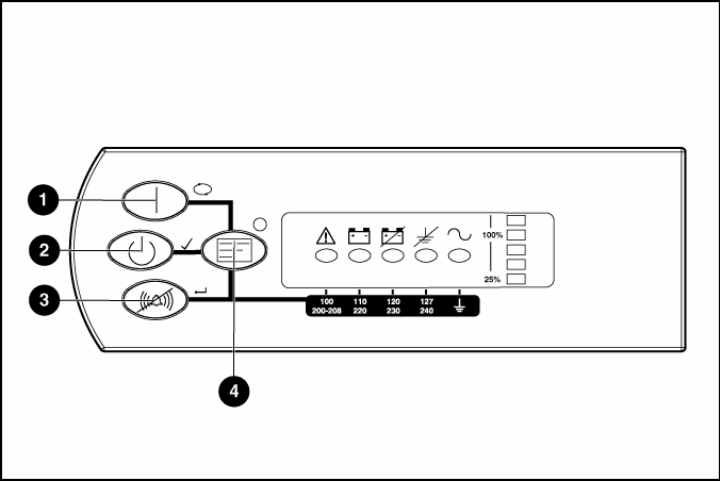
The front panel is shown with the bezel removed.

Item	Description	Function
1	On button	Powers up the UPS
2	Standby button	Places the UPS in Standby mode
3	Test/Alarm Reset button	Silences UPS alarms
		Initiates a self-test
4	Configure button	Places the UPS in Configure mode

UPS front panel LED indicators
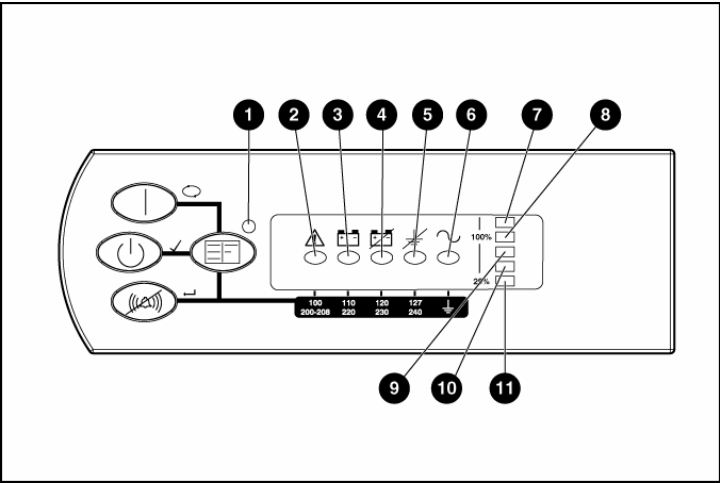
The front panel is shown with the bezel removed.

Item	LED description
1	Configure Mode On
2	General Alarm
3	On Battery
4	Battery Fault
5	Site Wiring Fault
6	Utility
7	Overload
8	76% to 100% load
9	51% to 75% load
10	26% to 50% load
11	0% to 25% load

For more information, see "LED and audible alarm troubleshooting" in the user guide.